COMPUTER INFORMATION SYSTEMS

The Computer Information Systems (CIS) department provides training for those persons who plan to work within a technical, computer-centered environment. Because of the widespread use of computers in our society, employment opportunities are found in a multitude of different environments such as general business, communications industries, manufacturing, environmental engineering, education, medical technology, and banking and finance as well as computer information science. The program is specifically designed to provide the student with practical training which would be valuable and useful in the computer programming workplace.

Career Opportunities

Computer Operator, Computer Operations Management, Computer Training Specialist, Data Administrator, Data Control Clerk, Data Entry Operator, Documentation Clerk, Education Specialist, Electronic Graphics Artist, Information Center Specialist, Management Technical Assistant, Microcomputer Technical Support, Multimedia Specialist, Network Administrator, Network Specialist, Network Support Specialist, Production Control Clerk, Programmer, Programmer/Analyst, Programming Librarian, Quality Control Specialist, Systems Analyst, Technical Research Assistant, Technical Support Specialist, Technical Writer, User Support Specialist, Web Master, Web Page Development

Faculty

Thomas, Shane

Tonning, Paul

Transfer

- California State University, San Bernardino: Computer Science, Computer Systems, and Computer Engineering majors
- University of California, Riverside: Computer Science and Computer Engineering majors

Note: Typically, majors in Computer Science require the following courses taken prior to transfer: CHEM 201 General Chemistry, CIS 201 Programming Concepts and Methods I, CIS 202 Programming Concepts and Methods II; ECON 102 Principles of Economics: Micro; MATH 226 Analytic Geometry and Calculus I, MATH 227 Analytic Geometry and Calculus II, MATH 228 Analytic Geometry and Calculus III, MATH 231 Linear Algebra; PHYS 201 Engineering Physics I-Mechanics, PHYS 202 Engineering Physics II -½Fluids, Sound, and Thermodynamics, PHYS 203 Engineering Physics III Electricity½and Magnetism, and PHYS 204 Engineering Physics IV-Optics And½modern Physics. An alternative to the CIS transfer major that appeals to many students is Administration, with an emphasis in CIS. See Business Administration.

For the most up-to-date information on these programs and others, visit assist.org (http://www.assist.org). Please stop by the Transfer Center in Building 23 or make an appointment with a counselor if you have questions.

Programs of Study

- Computer Information Systems, AS (https://catalog.vvc.edu/degrees-certificates/computer-information-science/computer-information-systems-as/)
- Computer Science, AS-T (https://catalog.vvc.edu/degrees-certificates/computer-information-science/computer-science-ast/)
- MySQL Database Developer Certificate of Achievement (https://catalog.vvc.edu/degrees-certificates/computer-information-science/mysql-database-developer-ca/)
- Network Specialist Certificate of Achievement (https://catalog.vvc.edu/degrees-certificates/computer-information-science/network-specialist-ca/)
- Programming I Certificate of Achievement (https://catalog.vvc.edu/degrees-certificates/computer-information-science/programming-ca/)
- Unix Administrator Certificate of Achievement (https://catalog.vvc.edu/degrees-certificates/computer-information-science/unix-administrator-ca/)
- Web Authoring Certificate of Achievement (https://catalog.vvc.edu/degrees-certificates/computer-information-science/web-authoring-ca/)

Program Learning Outcomes

Program Learning Outcomes (PLOs) are statements of the kind of learning a program hopes a student will achieve. The PLOs describe the knowledge, skills, problem-solving, communication and values that apply to all certificates and/or degrees within that program.

Upon completion of this program, students should be able to:

a. CIS students will attain Technical knowledge and key skills needed to be successful in the IT industry and transfer to university programs.

Computer Information Systems Courses

CIS 50 Computer Ethics (2.0 Units)
Computer Ethics is an introduction to the theories and issues of ethical behavior as applied to our rapidly changing, information-oriented, computer-driven society. Various ethical theories are introduced and numerous case histories are presented. Recommended Preparation: Know how to use a personal computer: functions of mouse buttons and control of mouse movement (right click, left click, single click, double click, drag-and-drop, etc.), create, open and save files, install and run applications. Type about 30 WPM to keep up with class assignments.
Lecture Hours: 36.0; Lecture Hours: 2.25
Transfer: Not transferable

CIS 83 Programming in Python (4.0 Units)
Python is a popular programming language that has taken a primary role in many companies including NASA, Google, and Industrial Lights and Magic. The foundation that students achieve can be applied to digital animation programs, and game programming. No prior programming experience is assumed.
Recommended Preparation: MATH 90 and CIS 101
Lecture Hours: 54.0; Lab Hours: 54.0
Transfer: Not transferable

CIS 91A MySQL Admin A (2.0 Units)
This course is designed to provide students with an introduction to the MySQL relational database management system. Students will learn how to design, install, configure and secure MySQL databases. The student should have prior experience with the fundamentals of databases.
Lecture Hours: 27.0; Lab Hours: 27.0
Transfer: Not transferable

CIS 91B MySQL Admin B (2.0 Units)
This second course in MySQL database administration is designed to provide students with an advanced approach to current database administration issues in enterprise level databases. Topics include: Transactions, Multiple Servers, Replication, Locking and Administration Interfaces.
Lecture Hours: 27.0; Lab Hours: 27.0
Transfer: Not transferable

CIS 101 Computer Literacy (4.0 Units)
This is a survey course which provides an overview of computer technology for multidisciplinary majors. Using laboratory projects supported by the lecture, the student gains hands-on familiarity with different operating systems, word processors, spreadsheets, database management systems, programming,networks and the use of the Internet. Recommended preparation: Mouse skills: know difference between, be able to perform, and know when to utilize: left click, right click, single click, double click, and drag and drop motion. Keyboarding skills: nominal typing speeds of about 30 words per minute (WPM).
Lecture Hours: 54.0; Lab Hours: 54.0
Transfer: Transfers to both UC/CSU

CIS 104 Object Oriented Analysis and Design (3.0 Units)
This is a first course in the object-oriented modeling and design, a way of thinking about problems using models organized around real-world concepts. Object-oriented models are useful for understanding and communicating complex system designs. This course is useful for understanding program analysis and design in object-oriented programming language courses.
Recommended Preparation: CIS 101
Lecture Hours: 54.0
Transfer: Transfers to CSU only

CIS 136 Introduction to the Internet (2.0 Units)
This course of instruction is designed for the student or savvy business person who wants to acquire the skills needed to effectively interact and utilize the resources of the Internet and including its main component, the World Wide Web (WWW). By completing this course, a student will become well versed in the understanding and use of browsers and viewers, File Transfer Protocol (FTP), news groups, e-mail, and chat/conversation utilities. They will also be made aware of some of the other concerns relating to using the Internet, such as privacy and security issues. Recommended Prep: Know how to use a personal computer: functions of mouse buttons and control of mouse movement (right click, left click, single click, double click, drag-and-drop, ect.), create, open and save files, install and run applications. Type about 30 WPM to keep up with class assignments.
Lecture Hours: 27.0; Lab Hours: 27.0
Transfer: Transfers to CSU only

CIS 137 Introduction to HTML (3.0 Units)
A course designed for the student or business person who wants to acquire the skills needed to create a presence on the WWW in the form of a web page. Subjects covered include HTML, CSS, and web authoring (design, implementation, and maintenance of web pages.)
Lecture Hours: 36.0; Lab Hours: 54.0
Transfer: Transfers to CSU only

CIS 150 Fundamentals of Networking (3.0 Units)
Fundamentals of Networking presents a broad overview of the fundamentals of networking computers. This course discusses in some detail the various network topologies, architectures, industrial standard, standards-defining organization, and the practical use of networks. This course is designed to prepare students to take the Network+ certification exam from CompTIA.
Recommended Preparation: CIS 101
Lecture Hours: 36.0; Lab Hours: 54.0
Transfer: Transfers to CSU only

CIS 160 Introduction to Network Security:½security + (3.0 Units)
Presents security topics covering general security concepts, communications security, infrastructure security, basics of cryptography, operational and organizational security. Topics include hacking, viruses, cryptography, detection and prevention on both wired and wireless LANs.
Recommended Preparation: CIS 67
Lecture Hours: 36.0; Lab Hours: 54.0
Transfer: Transfers to CSU only

CIS 190 Introduction to the Unix Operating½system (4.0 Units)
This course introduces the Unix and Linux operating systems. Topics include the history of Unix, commands and utilities, file system structure, shells, graphical user interfaces, networking, text editing and shell programming.
Recommended Preparation: CIS 101
Lecture Hours: 54.0; Lab Hours: 54.0
Transfer: Transfers to CSU only

CIS 201 Programming Concepts and Methods I (4.0 Units)
Introduces the discipline of computer science using a high level language utilizing programming and practical hands-on problem solving. C-ID: COMP 122.
Recommended Preparation: CIS 101
Lecture Hours: 54.0; Lab Hours: 54.0
Transfer: Transfers to both UC/CSU

CIS 202 Programming Concepts and Methods II (4.0 Units)
Application of software engineering techniques to the design and development of large programs; data abstraction and structures and associated algorithms. C-ID: COMP 132.
Prerequisite(s): CIS 201, Minimum grade C
Lecture Hours: 54.0; Lab Hours: 54.0
Transfer: Transfers to both UC/CSU

CIS 205 Web Programming With Javascript (4.0 Units)
JavaScript is the front-end programming language for web development. The course covers the fundamentals of the JavaScript language, event driven programming, JavaScript data structures and data interchange formats such as JSON and XML and the fundamentals of the Document Object Model (DOM) - the foundational structure for web programming. This course includes coverage of current Javascript libraries such as jQuery, React, and Node. Recommended preparation: experience with at least one programming language and HTML+CSS.
Lecture Hours: 54.0; Lab Hours: 54.0
Transfer: Transfers to CSU only

CIS 206 Programming Java (4.0 Units)
This is a course for programming in Java. The course will cover the basics of the Java programming language and object- oriented programming method. Some of the more advanced topics such as applets programming data structure implementation in Java will also be covered.
Lecture Hours: 54.0; Lab Hours: 54.0
Transfer: Transfers to both UC/CSU

CIS 208 Computer Architecture and Organization (3.0 Units)
Designed to train students to understand microcomputer systems low level (hardware) organizations and architecture through assembly language programming. (Formerly CIS 108). C-ID: COMP 142.
Lecture Hours: 36.0; Lab Hours: 54.0
Transfer: Transfers to both UC/CSU

CIS 221 Programming Concepts & Methodology I½using Python (4.0 Units)
First course in a sequence of courses that is compliant with the standards of the Association for Computing Machinery (ACM). C-ID Comp122 Python is a popular programming language that has taken a primary role in many companies including NASA, Google, Industrial Lights and Magic. Python uses an elegant syntax, making the programs easier to write and read, which also makes it an ideal language for beginning programmers. The foundation that students achieve can be applied to digital animation programs and game programming. No prior programming experience is assumed.
Recommended Preparation: MATH 105 and CIS 101
Lecture Hours: 54.0; Lab Hours: 54.0
Transfer: Transfers to CSU only

CIS 261 Unix System Administration (4.0 Units)
Unix system administrators are responsible for the operation of Unix systems–the most common server platform on the Internet. Learn how to setup, manage, and maintain Unix systems. Topics include: the role of the system administrator in an organization; Unix variants; installation; booting and shutting down; backups; managing users.
Prerequisite(s): CIS 190, Minimum grade C
Lecture Hours: 54.0; Lab Hours: 54.0
Transfer: Transfers to CSU only

CIS 264 Discrete Structures (3.0 Units)
This course will cover logic in computer science as a tool to establish truth through various techniques of proof. The goal of this course is for us to learn formal logic as a theoretical foundation and its application to topics in discrete mathematics and computer science. C-ID: COMP 152.
Prerequisite(s): CIS 201, Minimum grade C
Lecture Hours: 54.0
Transfer: Transfers to both UC/CSU

CIS 280 Fundamentals of Database Management½systems (3.0 Units)
This course provides an in-depth knowledge of several different database management systems (DBMS) and an understanding of the basic relational, network, or hierarchical database structures which they use. Issues of privacy, security, protection, integrity, redundancy, distributed database concepts, data manipulation and query languages are covered.
Lecture Hours: 36.0; Lab Hours: 54.0
Transfer: Transfers to CSU only

CIS 282 Structured Query Language (4.0 Units)
This course covers Structured Query Language using MySQL database management systems. Topics include: concepts of relational databases, DML, DDL, Joins, IF/Case statements, batch operations and locking.
Recommended Preparation: CIS 101 and CIS 280
Lecture Hours: 54.0; Lab Hours: 54.0
Transfer: Transfers to CSU only